

AMENDMENTS TO THE CLAIMS

Claims 1-42 (Canceled)

43. (New) A transgenic mouse whose genome comprises a homozygous disruption in an endogenous TSH-R gene, wherein the transgenic mouse exhibits reduced growth and development, relative to a wild-type mouse.
44. (New) The transgenic mouse of claim 43, wherein the transgenic mouse exhibits at least one of the following characteristics of reduced growth, relative to a wild-type mouse: dwarfism, small head, small eyes, small ears, hunched posture, small thymus gland, malformed femur, small skeletal muscle, decreased subcutaneous fat percentage, small seminal vesicle, decreased body weight, decreased body length, decreased liver, spleen, kidney, heart or thymus weight, small thyroid, immature testis, or immature glomeruli in the kidney.
45. (New) The transgenic mouse of claim 43, wherein the transgenic mouse exhibits at least one of the following characteristics of reduced development, relative to a wild-type mouse: reduced follicle size in the thyroid, large or vacuolated pituitary gland cells, reduced chromophils in pituitary gland, dysplasia of epiphyses of the femur or tibia, reduced or patchy ossification of epiphyses of the femur or tibia, reduced bone marrow cellularity, hypoplasia of the thymus, interstitial cell hypoplasia of the testis, hypospermatogenesis, oligospermia, lymphocytic infiltrates in the lung, lymphocytic infiltrates in kidney, elevated blood urea nitrogen, or diffuse retinal fibrosis.
46. (New) A method of producing a transgenic mouse comprising a disruption in an endogenous TSH-R gene, the method comprising:
- (a) introducing a TSH-R gene targeting construct into a mouse embryonic stem cell;
 - (b) introducing the mouse embryonic stem cell into a blastocyst;
 - (c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein the pseudopregnant mouse gives birth to a chimeric mouse; and
 - (d) breeding the chimeric mouse to produce the transgenic mouse,
- wherein where the disruption is homozygous, the transgenic mouse exhibits reduced growth and development, relative to a wild-type mouse.

47. (New) The method of claim 46, wherein the transgenic mouse exhibits at least one of the following characteristics of reduced growth, relative to a wild-type mouse: dwarfism, small head, small eyes, small ears, hunched posture, small thymus gland, malformed femur, small skeletal muscle, decreased subcutaneous fat percentage, small seminal vesicle, decreased body weight, decreased body length, decreased liver, spleen, kidney, heart or thymus weight, small thyroid, immature testis, immature kidneys or small glomeruli in the kidney.
48. (New) The method of claim 46, wherein the transgenic mouse exhibits at least one of the following characteristics of reduced development, relative to a wild-type mouse: reduced follicle size in the thyroid, large or vacuolated pituitary gland cells, reduced chromophils in pituitary gland, dysplasia of epiphyses of the femur or tibia, reduced or patchy ossification of epiphyses of the femur or tibia, reduced bone marrow cellularity, hypoplasia of the thymus, interstitial cell hypoplasia of the testis, hypospermatogenesis, oligospermia, lymphocytic infiltrates in the lung, lymphocytic infiltrates in kidney, elevated blood urea nitrogen, or diffuse retinal fibrosis.
49. (New) The transgenic mouse produced by the method of claim 46.
50. (New) A method of identifying an agent that ameliorates a phenotype associated with a disruption in a TSH-R gene, the method comprising:
- (a) administering a putative agent to the transgenic mouse of claim 43; and
 - (b) determining whether the putative agent ameliorates the reduced growth or development exhibited by the transgenic mouse.